We Claim:

1. An article comprising:

a z-positioner operative to move a liquid transfer vehicle along a z-axis, wherein said liquid transfer vehicle does not move in a x-y plane;

a x-y positioner operative to:

move, in said x-y plane, a first container having a first plurality of wells;

move, in said x-y plane, a second container having a second plurality of wells; and

processing and control electronics operative to:

direct said x-y positioner to align a well in said first container with said z-axis; and

direct said x-y positioner to align a well in said second container with said z-axis.

2. The article of claim 1 further comprising a fluid control device operative to:

generate a flow of liquid from said well of said first container into said liquid transfer vehicle; and

generate a flow of said liquid from said liquid transfer vehicle to said well in said second container.

3. The article of claim 2 wherein said liquid transfer vehicle is a syringe.

4. The article of claim 3 wherein said fluid control device is a linear drive mechanism that is operative to move a plunger of said syringe.

5. The article of claim 4 wherein said z-positioner is operative to move said linear drive mechanism along with said plunger and said syringe during z-positioning operations.

6. The article of claim 2 further comprising a wash system to wash said liquid transfer vehicle.

7. The article of claim 6 wherein said liquid transfer vehicle is a syringe, and said syringe is operatively connected to said wash system.

8. The article of claim 7 wherein said z-positioner is operative to move said wash system along with said syringe and a plunger of said syringe during z-positioning operations.

9. The article of claim 2 wherein said processing and control electronics comprises interactive software through which a user specifies said well in said first container and said well in said second container, said interactive software including a graphical user interface that displays:

a first pictorial representation of said first container and said first plurality of wells; and

a second pictorial representation of said second container and said second plurality of wells;

wherein, said specified well in said first container is identifiable in said first pictorial representation as having been specified, and said specified well in said second container is identifiable in said second pictorial representation as having been specified.

10. The article of claim 9 wherein said specified well in said first container is identifiable by being depicted in a first color in said pictorial representation, while other wells appearing in said first pictorial representation are not depicted in said first color.

11. The article of claim 10 wherein said specified wells are specified using said first and second pictorial representations.

12. An article comprising:

a first linear drive mechanism operative to move a liquid transfer vehicle along a z-axis, wherein said liquid transfer vehicle is stationary in an x-y plane defined by an x-axis and a y-axis;

a second linear drive mechanism operative to move a y-stage along said y-axis;

a third linear drive mechanism that is piggybacked on said y-stage and is operative to move an x-stage along said x-axis on said y-stage;

a fourth linear drive mechanism operative to generate:

aspirating flow into said liquid transfer vehicle; and

dispensing flow out of said liquid transfer vehicle, wherein

said first linear drive mechanism is operative to move said fourth linear drive mechanism in concert with said liquid transfer vehicle.

13. The article of claim 12 further comprising a wash system.

14. The article of claim 13 wherein said liquid transfer vehicle is in fluid communication with said wash system.

15. The article of claim 14 wherein said fourth linear drive mechanism is operative to cause movement of cleaning fluid through said wash system.

16. The article of claim 12 wherein said liquid transfer vehicle is a syringe.

17. The article of claim 16 wherein:

said wash system comprises a wash syringe and a waste syringe; and

said fourth linear drive mechanism is operative to generate:

aspirating flow into said wash syringe and said waste syringe; and

dispensing flow out of said wash syringe and said waste syringe.

18. The article of claim 17 wherein said wash syringe, waste syringe and liquid transfer vehicle are mechanically linked to said fourth linear drive system such that:

when said waste syringe and said liquid transfer vehicle are aspirating, said wash syringe is dispensing, and

when said waste syringe and said liquid transfer vehicle are dispensing, said wash syringe is aspirating.

19. The article of claim 12 wherein said x-stage has a source container receiver and a destination container receiver that are each physically configured to receive a micro-titer plate.

20. The article of claim 12 wherein said y-stage is disposed on first and second linear bearings.

21. The article of claim 12 wherein said x-stage is disposed on third and fourth linear bearings that depend from said y-stage.

22. An article comprising a wash system, said wash system comprising:
a first conduit in fluid communication with a supply of cleaning fluid and a wash/waste station;
a second conduit in fluid communication with said wash/waste station and a waste reservoir; and
a drive system for:
generating a flow of cleaning fluid from said supply to said wash/waste station;
generating a flow of contaminated cleaning fluid from said wash/waste station to said waste reservoir.

23. The article of claim 22 wherein said drive system comprises:
a first syringe having a first plunger;
a linear drive means operatively engaged to said first plunger.

24. The article of claim 23 wherein said first syringe is in fluid communication with said first conduit.

25. The article of claim 24 wherein said drive system further comprises:
a second syringe having a second plunger, wherein:
said linear drive means is operatively engaged to said second plunger; and
said second syringe is in fluid communication with said second conduit.

26. The article of claim 25 wherein said first syringe and said second syringe are physically configured so that said drive system is operative to generate said flow of cleaning fluid from said supply to said wash/waste station and to generate said flow of contaminated cleaning fluid from said wash/waste station to said waste reservoir at the same time.

27. An article comprising a wash system for cleaning a working syringe having a working plunger, said wash system comprising:

a first syringe having a first plunger, said first syringe operative to aspirate cleaning fluid from a supply reservoir and to dispense it to said working syringe at a wash/waste station;

a second syringe having a second plunger, said second syringe operative to aspirate contaminated cleaning fluid that is dispensed from said working syringe at said wash/waste station and to dispense it to a waste reservoir; and

a linear drive mechanism operatively engaged to said working plunger, said first plunger and said second plunger to generate aspirating flow and dispensing flow in said working syringe, said first syringe and said second syringe.

28. The article of claim 27 wherein said working syringe, said first syringe and said second syringe are configured so that when said linear drive mechanism generates aspirating flow in said working syringe and said second syringe, dispensing flow is generated in said first syringe.

29. The article of claim 28 further comprising:

a first conduit in fluid communication with said supply reservoir and a first check valve;

a second conduit in fluid communication with said first check valve, a second check valve and said first syringe;

a third conduit in fluid communication with a second check valve and said wash/waste station; wherein,

when dispensing flow is generated in said second syringe, said third check valve closes and said fourth check valve opens placing said second syringe in fluid communication with said waste reservoir; and

when aspirating flow is generated in said second syringe, said third check valve opens and said fourth check valve closes placing said second syringe in fluid communication with said wash/waste station.

30. The article of claim 29 further comprising:

a fourth conduit in fluid communication with said wash/waste station and a third check valve;

a fifth conduit in fluid communication with said third check valve, said second syringe and a fourth check valve;

a sixth conduit in fluid communication with said fourth check valve and said waste reservoir; wherein

when aspirating flow is generated in said second first syringe, said first check valve opens and said second check valve closes placing said first syringe in fluid communication with said supply reservoir; and

when dispensing flow is generated in said first syringe, said first check valve closes and said second check valve opens placing said first syringe in fluid communication with said wash/waste station.

31. The article of claim 27 further comprising a x-y positioner operable to move objects in contact therewith in an x-y plane.

32. The article of claim 31 further comprising a z-positioner operable to move said working syringe along a z-axis.

33. A method for washing a liquid transfer vehicle comprising:

aspirating cleaning fluid into a first receiver while, at the same time:

dispensing contaminated cleaning fluid from said liquid transfer vehicle; and

dispensing contaminated cleaning fluid from a second receiver; and

dispensing said cleaning fluid from said first receiver while, at the same time:

aspirating said cleaning fluid into said liquid transfer vehicle; and

aspirating contaminated cleaning fluid into said second receiver.

34. A method for operating a single channel reformatter ("SCR"), comprising:
specifying a group of source-to-destination links, each said link indicative of a source well from which liquid is removed and indicative of a destination well that receives the removed liquid;
determining a preferred execution order for said source-to-destination links; and
executing said source-to-destination links in said preferred execution order by removing liquid from said indicated source well and delivering it to said indicated destination well for each specified source-to-destination link.

35. The method of claim 34 wherein said step of executing further comprises:
obtaining spatial coordinates for said source-to-destination links; and
converting said spatial coordinates into actuator control information.

36. The method of claim 35 wherein said step of executing further comprises actuating positioners within said SCR using said actuator control information.

37. The method of claim 36 wherein said step of executing further comprises:
positioning an indicated source well at a specified location in an x-y plane by actuating an x-y positioner;
aspirating said liquid from said indicated source well;
positioning an indicated destination well at said specified location in said x-y plane by actuating said x-y positioner; and
dispensing said aspirated liquid into said indicated destination well.

38. The method of claim 37 wherein said step of dispensing further comprises:
aspirating cleaning fluid into a first syringe; and
dispensing contaminated cleaning fluid from a second syringe.

39. The method of claim 34 wherein said step of determining further comprises sequencing said source-to-destination links such that a destination well of a subsequent source-to-destination link is the closest well to a destination well of a previous source-to-destination link.

40. The method of claim 34 wherein said step of specifying further comprises forming an array of source-to-destination links, wherein:

said array has a size equal to a number of destination wells in a destination container, and

said specified group of source-to-destination links is a subset of said array of source-to-destination links.

41. The method of claim 40 wherein said step of specifying further comprises activating the source-to-destination links in said array that correspond to said group of source-to-destination links.

42. The method of claim 41 wherein said step of specifying further comprises, for each activated source-to-destination link:

specifying a row and a column indicative of a position of said indicated source well;

specifying a row and a column indicative of a position of said indicated destination well; and

specifying said determined execution order.

43. The method of claim 42 wherein said step of specifying further comprises using a graphical interface whereby:

said row and column of said indicated source well is specified via a pictorial representation of a source container; and

said row and column of said indicated destination well is specified via a pictorial representation of said destination container.